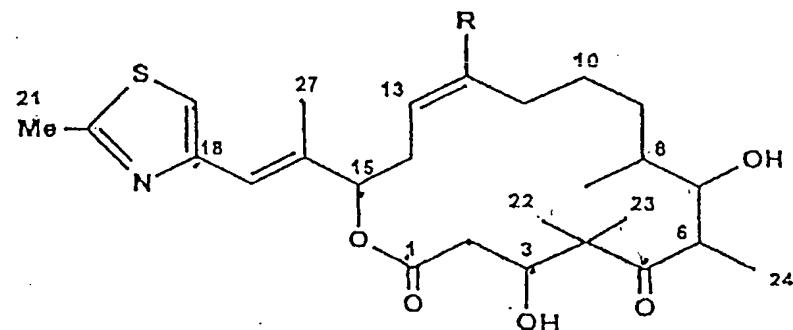


Patent Claims

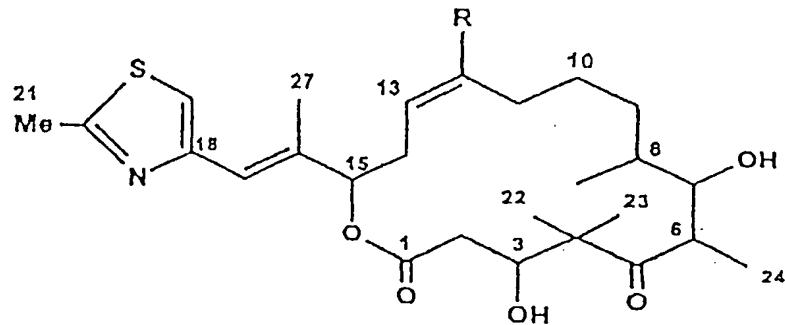
1. Epothilone C of the formula:



Epothilone C R = H

2. Epothilone of the empirical formula C₂₆H₃₉NO₅S, characterized by the ¹H- and ¹³C-NMR spectrum as in Table 1.

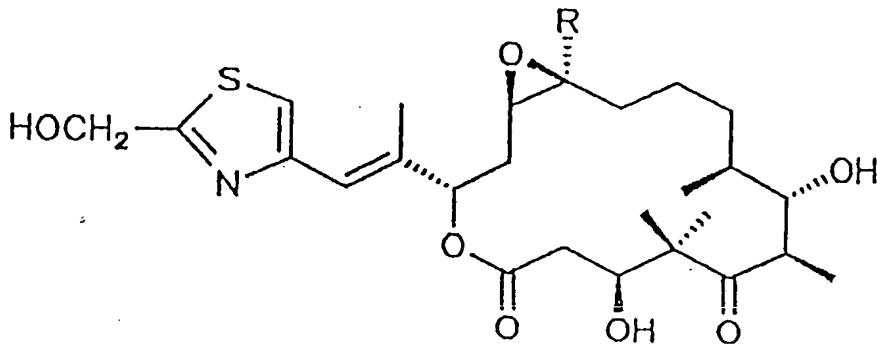
3. Epothilone D of the formula:



Epothilone D R = CH₃

4. Epothilone of the empirical formula C₂₇H₄₁NO₅S, characterized by the ¹H- and ¹³C-NMR spectrum as in Table 1.

5. Compound (epothilone E) of the formula:



Epothilone E R = H

6. Compound of the empirical formula C₂₆H₃₉NO₇S, characterized by the following ¹H-NMR spectrum (300 MHz, CDCl₃): delta = 2.38 (2-H_a), 2.51 (2-H_b), 4.17 (3-H), 3.19 (6-H), 3.74 (7-H), 1.30 – 1.70 (8-H, 9-H₂, 10-H₂, 11-H₂), 2.89 (12-H), 3.00 (13-H), 1.88 (14-H_a), 2.07 (14-H_b), 5.40 (15-H), 6.57 (17-H), 7.08 (19-H), 4.85 (21-H₂), 1.05 (22-H₃), 1.32 (23-H₃), 1.17 (24-H₃), 0.97 (25-H₃), 2.04 (27-H₃).

7. Biotransformant of epothilone A, obtainable in that

(a) *Sorangium cellulosum* DSM 6773 is cultured in a manner known per se in the presence of an adsorber resin, removed from the adsorber resin and, if appropriate, the total amount or a part of the separated culture is treated with a methanolic solution of epothilone A,

(b) the culture treated with epothilone A is incubated and then treated with adsorber resin,

- (c) the adsorber resin is separated from the culture, eluted with methanol and the eluate is concentrated to give a crude extract,
- (d) the crude extract is partitioned between ethyl acetate and water, the ethyl acetate phase is separated off and concentrated to give an oil,
- (e) the oil is chromatographed on a reverse phase under the following conditions:

column material: Nucleosil 100 C-18 7 μ m

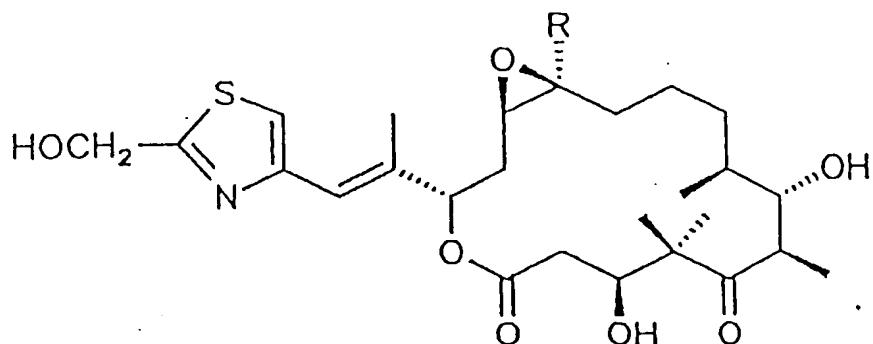
column dimensions: 250 x 4 mm

eluent: methanol/water = 60 : 40

flow rate: 1.2 ml/min

and fractions having a content of biotransformant and which can be detected by UV extinction at 254 nm and have an R_t value of 5.0 min are separated off and the biotransformants are isolated.

8. Biotransformant of epothilone A according to Claim 6,⁷ characterized in that in stage (a) a culture is separated off which is three or four or more days old.
9. Biotransformant of epothilone A according to Claim ~~6 or~~ 7, obtainable in that in stage (b) incubation is carried out for one or two or more days.
10. Compound (epothilone F) of the formula:



Epothilone F R = CH₃

11. Compound of the empirical formula C₂₇H₄₁NO₇S, characterized by the following ¹H-NMR spectrum (300 MHz, CDCl₃): delta = 2.37 (2-H_a), 2.52 (2-H_b), 4.20 (3-H), 3.27 (6-H), 3.74 (7-H), 1.30 - 1.70 (8-H, 9-H₂, 10-H₂, 11-H₂), 2.78 (13-H), 1.91 (14-H), 2.06 (14-H_b), 5.42 (15-H), 6.58 (17-H), 7.10 (19-H), 4.89 (21-H₂), 1.05 (22-H₃), 1.26 (23-H₃), 1.14 (24-H₃), 0.98 (25-H₃), 1.35 (26-H₃), 2.06 (27-H₃).
12. Biotransformant of epothilone B, obtainable in that
 - (a) Sorangium cellulosum DSM 6773 is cultured in a manner known per se in the presence of an adsorber resin, separated from the adsorber resin and, if appropriate, the total amount or a part of the separated culture is treated with a methanolic solution of epothilone B,
 - (b) the culture treated with epothilone B is incubated and then treated with adsorber resin,
 - (c) the adsorber resin is separated from the culture, eluted with methanol and the eluate is concentrated to give a crude extract,
 - (d) the crude extract is partitioned between ethyl acetate and water, the ethyl acetate phase is separated off and concentrated to give an oil,
 - (e) the oil is chromatographed on a reverse phase under the following conditions:

column material: Nucleosil 100 C-18 7 µm
column dimensions: 250 x 4 mm
eluent: methanol/water = 60 : 40
flow rate: 1.2 ml/min

and fractions having a content of biotransformant and which can be detected by UV extinction at 254 nm and have an R_t

value of 5.4 min are separated off and the biotransformants are isolated.

12

13. Biotransformant according to Claim 11, obtainable in that in stage (a) a culture is separated off which is three or four more days old.
14. Biotransformant according to Claim ~~11 or~~ 12, obtainable in that in stage (b) incubation is carried out for one or two more days.
15. Composition for plant protection in agriculture and forestry and/or in horticulture, consisting of one or more of the compounds according to one of the preceding claims or one or more of these compounds in addition to one or more customary carrier(s) and/or diluents(s).
16. Therapeutic composition in particular for use as a cytostatic, consisting of one or more of the compounds according to one or more of the preceding claims or one or more of the compounds according to one or more of the preceding claims in addition to one or more customary carrier(s) and/or diluent(s).

Muller A21